

IN THE SPECIFICATION:

Please amend paragraphs [107], [115], [118], [129], [133], [153], [155], [158], [181], [183], [194], [196], and [220] and add new paragraph [076.1] of the specification as shown below, in which deleted terms are shown with strikethrough and/or double brackets, and added terms are shown with underscoring. Also, please add a heading between paragraphs [013]-[014], delete the heading appearing between paragraphs [017]-[018], and amend the heading appearing between paragraphs [081]-[082] as shown below.

Heading added between paragraphs [013]-[014]

SUMMARY OF THE INVENTION

Heading deleted between paragraphs [017]-[018]

~~DISCLOSURE OF THE INVENTION~~

Heading appearing between paragraphs [081]-[082]

DETAILED DESCRIPTION OF BEST MODE EMBODIMENTS
FOR CARRYING OUT THE INVENTION

Paragraph [076.1] FIG. 18 is a horizontal plan view of an aligning cylinder, a floating rod, a joint member and a placement joint member connected to the support body extending through the hollow cylindrical body.

Paragraph [107] The cylinder 86 has a rod 88 with a bracket 89 mounted on the distal end thereof (see FIGS. 6 and 8). A first arm 92 and a second arm 94 are coupled to the bracket 89 by a rod 90 (see FIG. 6). Specifically, the first arm 92, the ~~rod 88~~ bracket 89, and the second arm 94

have respective through holes defined in their ends, and the rod 90 extends through these through holes.

Paragraph [115] Then, the cylinder 52 is actuated to ~~retract~~forward the rod 54. At this time, the cylinder 52 is angularly moved about its portion which is pivotally supported by the brackets 50, 50. The joint arm 58 is ~~retracted~~forwarded to turn the rotary board 46. The slanted pedestal 60 and the support member 28 are turned about their portions which are coupled to the rotary board 46 until finally the support member 28 abuts against the stopper 76 and is positioned to extend from the first columnar member 24 to the second columnar member 26, as shown in FIG. 9. At this time, the support member 28 is inclined with respect to the horizontal direction (see FIG. 7).

Paragraph [118] Specifically, the friction stir welding tool 100 is inserted into the gap 98 (see FIG. 6) and the rotor 102 is rotated, after which the probe 104 is held in sliding contact with the second protrusion 9 at any desired position thereon. The sliding contact produces frictional heat, softening the region of the second protrusion 9 which is contacted by the probe 104, whereupon the tip end of the probe 104 is plunged into the ~~[[first]]~~ second protrusion ~~[[8]]~~9.

Paragraph [129] When the probe 104 moves, since the hollow cylindrical body W2 is inclined with respect to the horizontal direction, the area of contact between the hollow cylindrical body W2 and the probe 104 is smaller than if the hollow cylindrical body W2 is supported horizontally. Consequently, the probe 104 suffers a lesser load.

Paragraph [133] After the hollow cylindrical body W2, which serves as a preform for a wheel rim, is fabricated by the friction stir welding process, the cylinder 86 is actuated to lower the rod 88, spacing the prismatic bar members 34a, 34b away from the hollow cylindrical body

W2. The cylinder 52 is actuated to ~~[[move]]~~retract the rod 54 ~~forward~~backward, turning the support member 28, and the cylinder 64 is actuated to retract the rod 66, spacing the second gripping member 32 away from the second protrusion 9. The hollow cylindrical body W2 with the first protrusion 8 and the second protrusion 9 can now be removed from the friction stir welding apparatus 20.

Paragraph [153] An elongate floating rod ~~[[129]]~~ 192 has an end coupled to the head of the piston rod 190. The other end of the floating rod ~~[[129]]~~ 192 projects from the second insertion hole 164.

Paragraph [155] Bearings (not shown) are interposed between the support body 130 and the first and second large rods 198, 200. The bearings are sealed by a first ~~[[cam]]~~ cap 202 and a second cap 204 that are fitted respectively in the first rod insertion small hole 194 and the second rod insertion small hole 196.

Paragraph [158] A placement joint member 218, which has a vertical dimension shown in FIG. 15 slightly smaller than the joint member 206, extends between and is mounted on portions of the first large rod 198 and the second large rod 200 which extend from the first through hole 208 and the third through hole 212 in the joint member 206. Specifically, as shown in FIG. 18, the placement joint member 218 has a fourth through hole 220 and a fifth through hole 222 through which the first large rod 198 and the second large rod 200 extend, respectively. Bearings (not shown) are interposed between the placement joint member 218 and the first large rod 198 and the second large rod 200. The bearings are sealed by a third ~~[[cam]]~~ cap 224 and a fourth cap 226 that are fitted respectively in the fourth through hole 220 and the fifth through hole 222.

Paragraph [181] Prior to a friction stir welding process, the friction stir welding apparatus

120 is supplied with a cooling water through the tubes 244[[b]]a, 244[[d]]c.

Paragraph [183] The cooling water that has flowed through the lower passageways 264 flows through the cooling water outlet passages 248 defined in the support body 130 (see FIG. 15), and is then discharged out of the friction stir welding apparatus 120 through the tubes 244[[a]]b, 244[[c]]d.

Paragraph [194] Then, the vertically movable cylinders 294 of the first presser stop means 290a and the second presser stop means 290b (see FIG. 14) are actuated to elevate the piston rods 296. The arms 302 are tilted toward the hollow cylindrical body W2 about their portions joined to the links 298, 300 until finally the presser stops 304 abut against the outer circumferential wall surface of the hollow cylindrical body W2 (see FIGS. 15, 16, and 20).

Paragraph [196] The upper inner circumferential wall surface of the hollow cylindrical body W2 is now placed on the support core 132, and the lower inner circumferential wall surface of the hollow cylindrical body W2 is pressed by the head of the longer member 354 of the vertical pressing arm 358. Since the resilient biasing force of the helical spring 364 is greater than the pressing force of the presser stops 304 that are placed on the outer circumferential wall surface of the hollow cylindrical body W2, as described above, the hollow cylindrical body W2 is slightly stretched vertically downwardly. Therefore, the hollow cylindrical body W2 is prevented from being deformed into a horizontally elongate elliptical cross-sectional shape. As shown in FIG. 22, if the first finger 7a and the third finger 7c or the second finger 7b and the fourth finger 7d overlap each other, these fingers are slightly corrected out of the overlapping state as the hollow cylindrical body W2 is stretched as described above.

Paragraph [220] Since the bottom of the base 122 is slightly slanted, the hollow cylindrical

body W2 is also inclined with respect to the horizontal direction. Therefore, when the friction stir welding tool 100 moves, the area of contact between the hollow cylindrical body W2 and the probe 104 is smaller than if the hollow cylindrical body W2 is supported horizontally.

Consequently, the probe 104 suffers a lesser load.